The Good, The Bad, The Ugly, and The Nasty

Live ! From Fort Hood: “It’s Thursday Morning Inventory”

A descriptive explanation of the inventory process.

Fort Hood Natural Resource Inventory by the Natural Resources Conservation Service

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Inventory Methodology

- An Automated Collection of Soil, Water, Plants and Land Use Factors to Determine:
  - Condition of Natural Resources {NR}
  - Trends of NR over time
  - Determine Quantity, Rate and Production
  - Forage Inventory (livestock)
  - Evaluation of Effects of Conservation Practices

Components of the Inventory

- Transects
- Vegetation
- Rangeland Health
- Soils
- Land Use and Practices

Guidelines for Transects

- Represent landscape
  - Soils & Erosion
  - Vegetation
  - Link to Plant Community Maps {in Arc-View}

Guidelines for Vegetation Sampling

- Perennial Production
- Percent Bare Ground
- Brush and Tree Production
- Percent Brush Canopy

Guidelines for Rangeland Health

- Comparison of Historic Condition Vs. Current Condition of the Resource
- Seventeen Factors that consider the Relationship of the Soil, Water, and Biotic communities on the Landscape
- Applicable to Forested Regions

Guidelines for Soil

- Sheet and Rill Erosion
  - “C” Factor - Land Cover
  - LS Factor
    - Length of Slope
    - Percent of Slope
- Concentrated Flow Erosion (Gully)
  - Length, width, depth and rate of regression.

Guidelines for Land Use

- Intensity of Training Impact
  - Traffic impact to plants and soil
- Adjacent to location of:
  - Conservation Practices
  - Cultural Resources
  - Threatened & Endangered Specie Habitat

Protocol of Inventory

- Locate by Global Positional System GPS
- Stake the point
- Take a photo
- Compass reading
- Lay out 200 ft. tape Magnetic North
- Lay out Frame at 20 ft. intervals
- Determine % Bare Ground.
- Collect Weight Units for Plant Specie
- Determine Species in the frame.
- Determine Number of Samples
- Stage of Growth Factor for Specie
- Percent Ungrazed (remaining Plant)
- Percent Normal Growth (Weather Factor)

Protocol of Inventory

- Computer then calculates Reconstructed Weight for each species recorded
- Pounds per Acre is then displayed
- Determine Military Impart in the area
- Check practices done in the area
- Calculate Soil and Gully Erosion
- Move to new site and repeat the above

Let’s Go To a Site

Location

- Locate by Global Positional System GPS

Identify

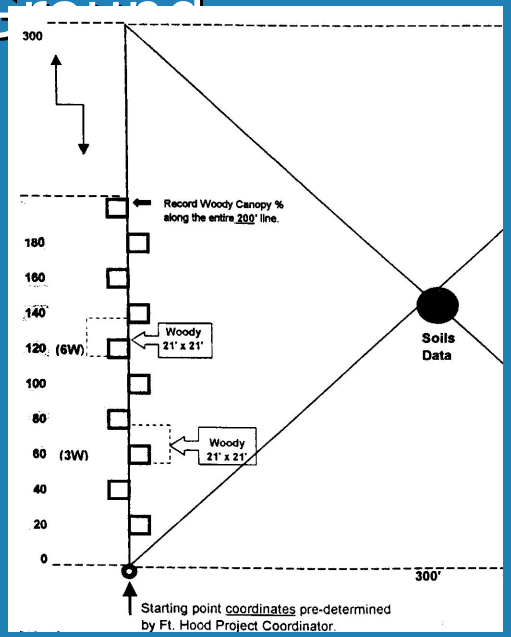
- Stake the point
- Take the photos

Layout

- Compass reading
- Lay out 200 ft. tape Magnetic Nort

Collection

- Lay out Frame at 20 ft. intervals
- Determine % Bare Ground

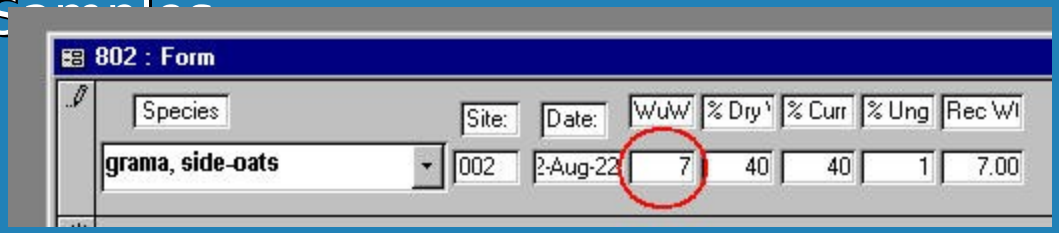


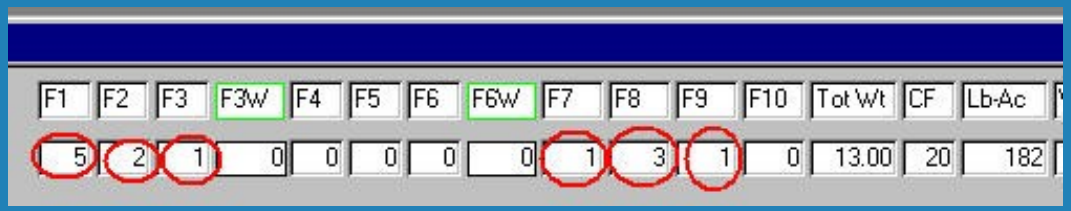
Plant Identification

- Determine Species in the frame.
- Collect Weight Units for Plant Specie

Weight determination

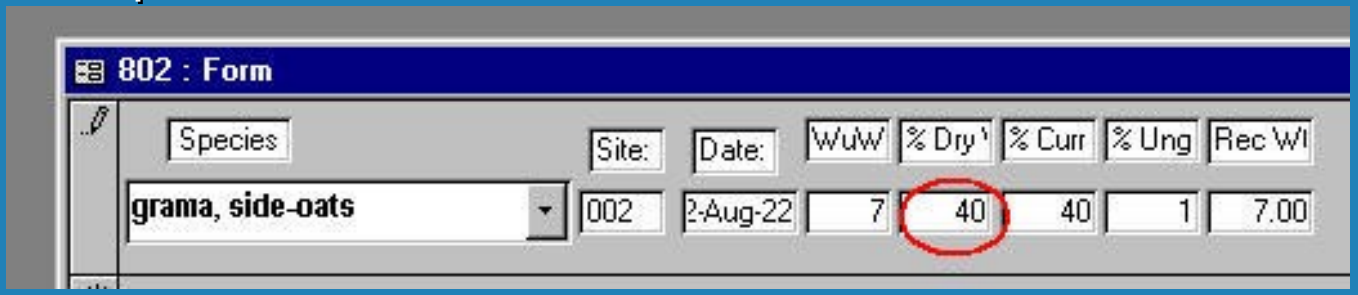
- Determine Number of Samples

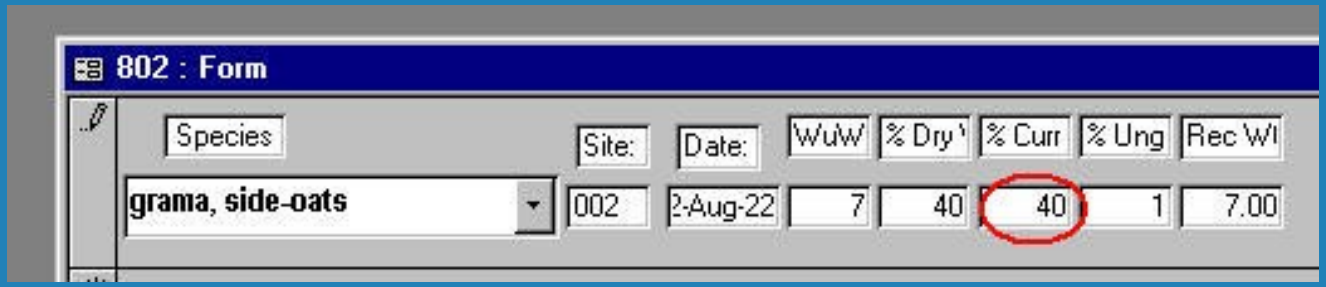




Plant Growth Curve

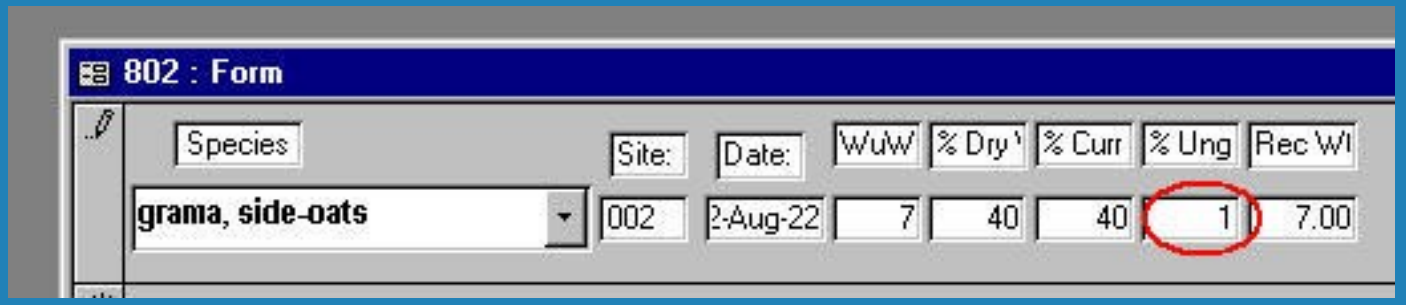
- Stage of Growth Factor for each Specie





Grazing Influence

- Percent Ungrazed (remaining Plant)

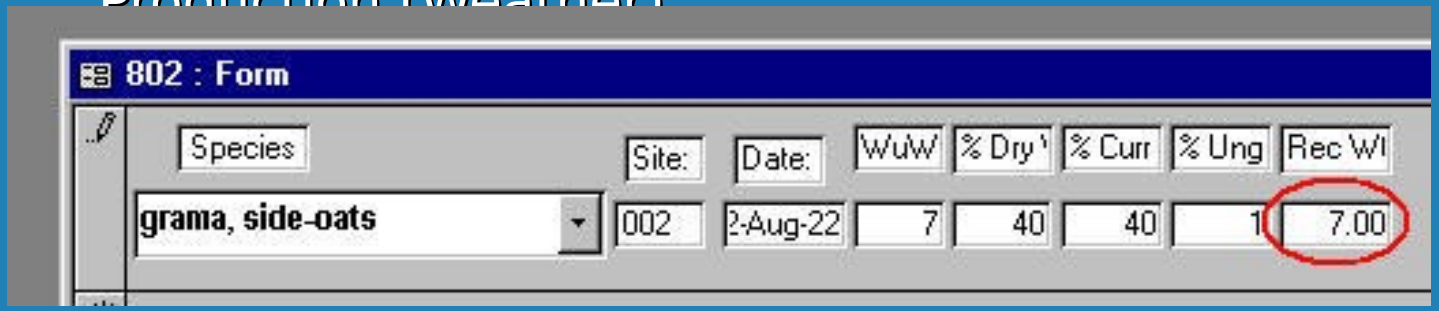


How’s the Weather?

- Percent Normal Growth (Weather Fac

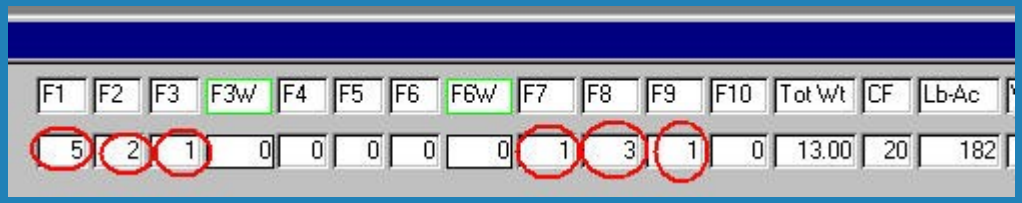
Reconstructed Weight

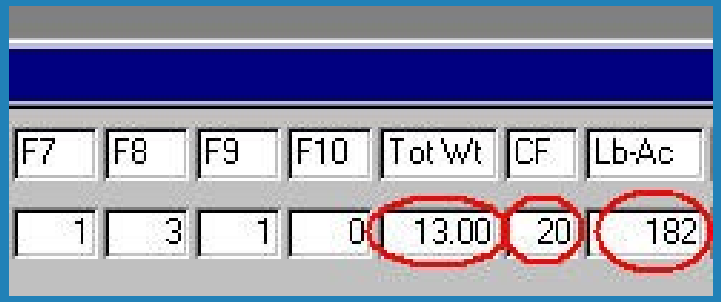
- **Reconstructed Wgt. Unit** = Unit Wgt Times % Dry Wgt **Divided** by % Current Growth **Divided** by % Ungrazed **Divided** by % Normal Production (Weather)



Pounds Per Acre

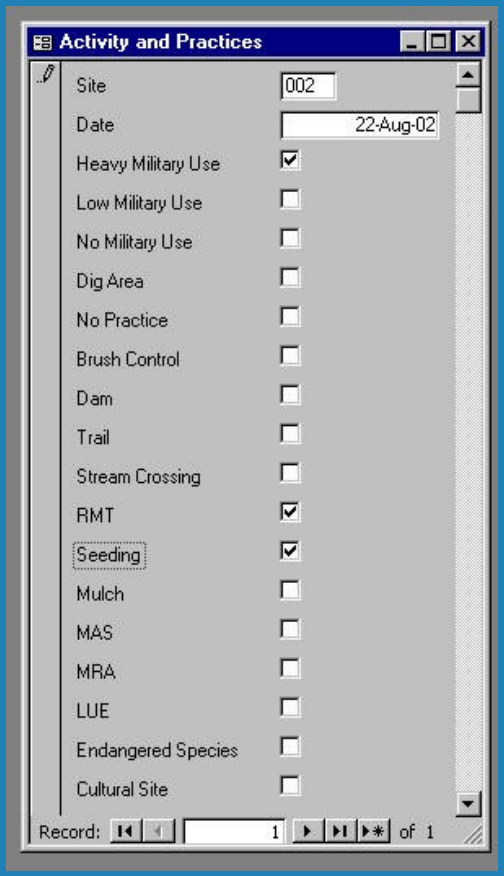
- **LBS. Per Acre** = Total Wgt Units **Times** Reconstructed wgt = Wgt of all frames **divided** by number of frames **times** Conversion Factor of frame





Military Impacts

- Land Use
- Practices



Soil Erosion

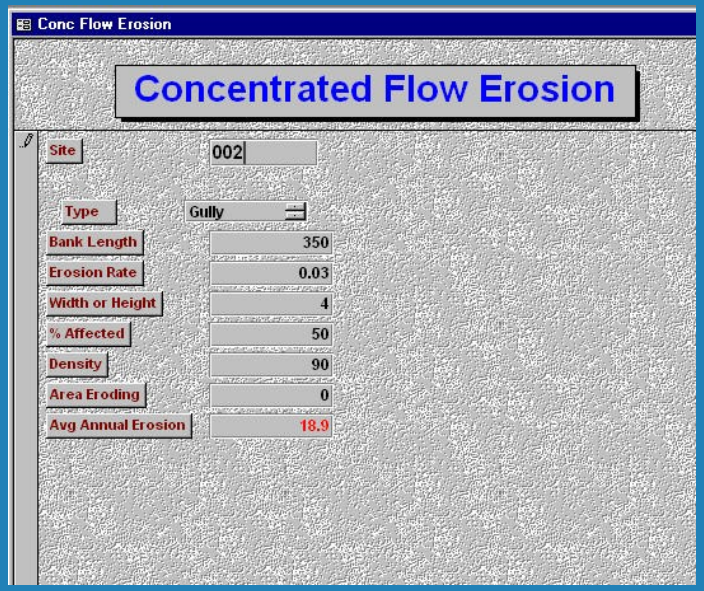
- “C Factor
- LS Factor

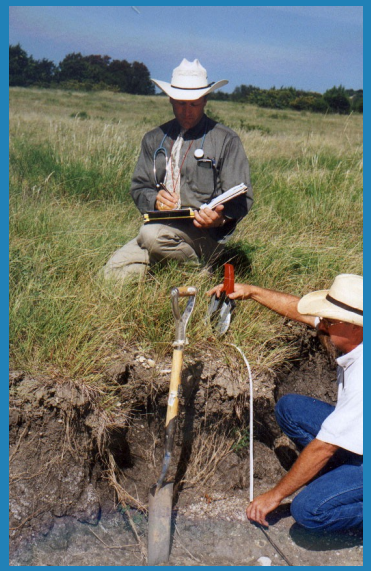
Sheet and Rill Erosion

Site	Area (Acres)	R	K	L (Length)	S (Slope)	LS	C (Cover)	P	S and R
002	2.1	280	0.32	150	2	0.23	0.09	1	1.85471997

Gully Erosion

- Bank Length and Height
- Erosion Rate and % Affected
- Soil Density





Closing Remarks…

- Natural Resource Driven
- Determines Reconstructed and Actual weights
- Calculates Total Erosion for area
- To Measure the Impact the Military Training and the Conservation Practices have had on Ft. Hood
- Procedures are Nation Wide
- Information is applicable and accepted by Scientific Community

Questions?